

Re: Fw: Update on Talley GW Investigation

Mitch Kaplan to: Cynthia Ruelas

From: Mitch Kaplan/R9/USEPA/US

To: Cynthia Ruelas/R9/USEPA/US@EPA,

Hi Cynthia- Thanks for sending this along. Actually good that the well on Salt River land came up non-detect for perchlorate. I don't think we need any more areas of ground water that have been impacted by perchlorate. Concerning theories on the potential source of perchlorate in the newly drilled monitoring well, I do not believe that the Colorado River is a source for the perchlorate. Historically, the highest concentration of perchlorate that has been measured in surface water between the point where Las Vegas Wash enters Lake Mead (which is where Las Vegas gets their drinking water) and all points down river along the Colorado River to the point where the California aqueduct diverts water to Los Angeles was 24 ppb. This occurred one time where Las Vegas Wash enters Lake Mead. Concentrations of perchlorate have been steadily dropping due to the extensive treatment that has been ongoing by both Tronox and American Pacific (Henderson Nevada over the past 15 years) Measurements of perchlorate along the Colorado River have been averaging 2-4 ppb and now are mostly below the detection limit of 2 ppb which is currently being used. Remember the concentration of perchlorate in the monitoring well was reported at 56,000 ppb, 4 orders of magnitude higher. If anything, this deep ground water could conceivably be acting as a source for the Colorado River via ground water recharge though unlikely. The rise in ground water levels in the monitoring well is likely due to the aquifer in the bedrock being under confined conditions, fracturing not withstanding. Hope this helps in terms of some historical background.

Mitch Kaplan WST-5 2-3359

Cynthia Ruelas

Hi Mitch, I just left you a voicemail regarding Talley, and wanted to send this e...

11/06/2012 03:36:19 PM

From: Cynthia Ruelas/R9/USEPA/US
To: Mitch Kaplan/R9/USEPA/US@EPA,

Cc: Katherine Baylor/R9/USEPA/US@EPA, Kevin Wong/R9/USEPA/US@EPA

Date: 11/06/2012 03:36 PM

Subject: Fw: Update on Talley GW Investigation

Hi Mitch,

I just left you a voicemail regarding Talley, and wanted to send this email to you for your record. Perhaps, you, me, Kathy, and Kevin can meet some time either end of this week or early next week to discuss Talley. I anticipate that Talley will be conducting another round of quarterly monitoring some time this month, but I do need to check in with ADEQ about this. I will also touch base with Wang Yu at Salt River to make sure everything is going in accordance with the tribe's needs/expectations for this project.

Thanks,

11/13/2012 09:41 AM

Cynthia

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---- Forwarded by Cynthia Ruelas/R9/USEPA/US on 11/06/2012 03:32 PM -----

From: Cynthia Ruelas/R9/USEPA/US

To: Arlene Kabei/R9/USEPA/US@EPA, Caleb Shaffer/R9/USEPA/US@EPA,

Cc: Kevin Wong/R9/USEPA/US@EPA

Date: 06/08/2012 05:27 PM

Subject: Update on Talley GW Investigation

Hi Arlene and Caleb,

I spoke with Wang Yu (point of contact for Talley at Salt River) today, and he provided me with an update on Talley.

Wang indicated that the field work for groundwater investigation within the stormwater accumulation area (located on tribal land ~200 ft west of Talley's former open burn facility) began on Monday, June 4; Talley drilled a 200-foot borehole within the stormwater accumulation area. On the first day, the well was drilled to 100 feet below ground surface (ft bgs). The next day, Tuesday, Talley was surprised to see that groundwater was present in the borehole. They measured the groundwater level and found that it was at 60 ft bgs. They drilled down to 200 ft bgs, per the workplan. The borehole drilling was completed yesterday (it took about 4 days to drill to 200 ft bgs because the bedrock, which is from about 30 ft bgs to the total depth of the borehole [200 ft bgs], is tough to drill through). They measured the depth to groundwater today, and found that the groundwater level was at 40 ft bgs. The plan is to purge the water in the borehole tomorrow, and then allow for it recharge. If there is enough water on Monday, they will collect a groundwater sample and send it to the lab for analysis. The sample will be analyzed on a 24 hour turn around time, so if they are able to collect a sample on Monday, we will probably hear about the results on Tuesday or Wednesday. The rate of recharge may also help provide some indication of where the water came from.

There are a couple different theories on where this water in the borehole may have come from. One is that the nearby concrete-lined Southern Canal may have leaked. According to Wang, it is not unusual for the concrete liner on such a structure to crack and leak water into the subsurface. Talley is planning on collecting a sample from the canal for perchlorate analysis. Apparently this canal is fed by the Colorado River, which may have perchlorate impacts due to historical perchlorate contamination that occurred in Henderson, NV. So that is a possible source. The other theory is that this water is a regional aquifer caused by pressure built up by the weight of the bedrock layer, the pressure of the bedrock may have pushed up the aquifer causing it to rise (artisian affect).

By the way, there is another well on Salt River land that is located about 300 meters northwest of the site. This well tends to generate a lot of water, and the times that the owner has purged the well, the well has recharged within a day or two. So because the geology is similar in the stormwater accumulation area, the same thing will probably occur. The well that is about 300 meters from stormwater accumulation area has been tested for perchlorate, and the results have indicated that perchlorate is non-detect.

The laboratory detection limit on the gw sample will be 4 ppb. Once the results are obtained, Talley will compare the perchlorate concentrations to ADEQ's groundwater protection level for perchlorate, which is 14 ppb. If the perchlorate concentration is below 14 ppb, Talley will seal/destroy the temporary well and closure on the gw portion of the investigation will be granted. If the concentration is above 14 ppb, Talley will develop the temporary well and turn it into a permanent well. Future ongoing monitoring of the well will subsequently be established.

Wang had concerns regarding the perchlorate action level because EPA is currently undergoing comment period for determining the appropriate perchlorate action level in water, and it will likely not be established for another year. He is concerned that once the federal stnadard for perchlorate is established, it will be lower than 14 ppb (ADEQ's health based guidance level [HBGL]); but by that time, Talley will have been granted closure, and there will be nothing Salt River can do once that occurs. Wang has talked to ADEQ about his concerns. There are a couple other issues. Wang is concerned about the chrom 6 in soil. The RSL for chrom 6 in soil is now 1,000 times less than what it was at the time that Talley sampled for chrom 6 in the alluvium. Talley has indicated that chrom 6 is not a contaminant of concern at the site based on this previous data, however, the revised chrom 6 RSL has opened up a new can of worms because Wang believes that chrom 6 should be revisited at the site. There was another issue that Wang raised about ADEQ not having the authority to sign off entirely on the closure plan because some of the investigative work is being conducted on tribal land. I talked to Kevin Wong about this, and based on our conversation, I'll talk to Anthony at ADEQ about this issue. I'm not sure how ADEQ plans to address the other issues that Salt River raised, but I'll discuss with Anthony as well.

Let me know if you have any questions.

Thanks, Cynthia

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